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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/583,012
Filing Date: June 15, 2006
Appellant(s): HALL-GOULLE ET AL.

Tyler A. Stevenson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 16, 2009 appealing from the Office action mailed October 8, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,728,823	REUSCHER	1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

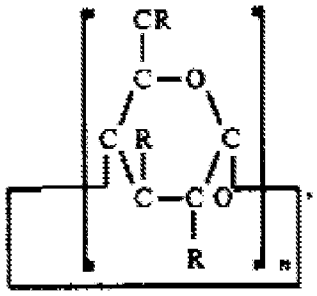
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

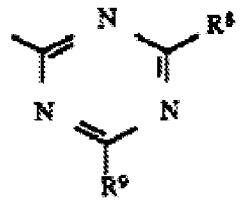
Claims 1-5, 7, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reuscher et al. (US 5,728,823, March 17, 1998, PTO-1449 submitted September 11, 2006). This rejection is set forth in the prior Office Action mailed October 8, 2008, and reiterated in full below.

Reuscher et al. teach reactive cyclodextrin derivatives having nitrogen-containing heterocycles [see abstract]. The cyclodextrin derivatives are of formula I, shown below:



,

Wherein R is OH, OR^1, or R^2. In a preferred embodiment, R^2 is $-R^3{}_m$-(CHR^4)-R^5-R^6, where R^3 and R^5 can be NH or N-alkyl, and R^6 is the heterocycle shown below:



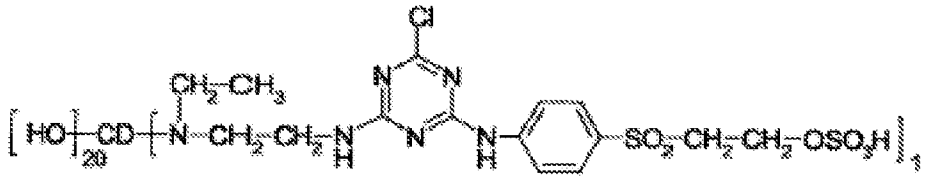
.

R^8 and R^9, shown on the above heterocycle, can be halogen, hydroxyl, alkoxy, NR^2 or N-phenyl, wherein the phenyl can be substitued with groups such as Cl, $SO_2CH_2CH_2OSO_3H$ and $CH_2SO_2CH_2CH_2OSO_3H$. [columns 1-3]

The compounds are useful for finishing textiles [column 13, line 23 - column 15, line 26].

Reuscher et al. do not exemplify the species elected in the instant application, although the species does fall within the genus taught by Reuscher et al.

It would have been obvious to one of ordinary skill in the art to prepare the following compound, which is the elected species in this application:

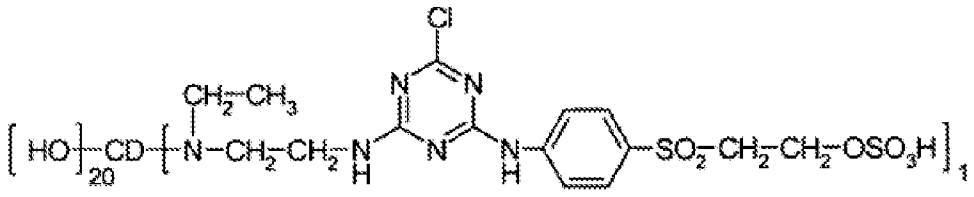


Although Reuscher et al. do not exemplify this particular species, the species is taught as part of a genus of compounds which are useful for textile finishing, which is the same utility disclosed in the instant invention. Thus, the skilled artisan could have prepared this species and could have predicted that it would have utility in the textile industry.

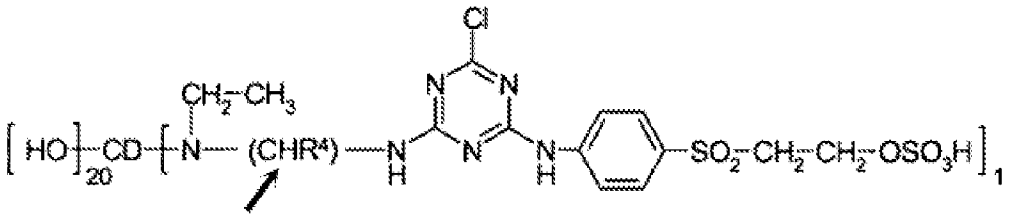
It is noted that, although the elected species is not encompassed by all the rejected claims, the rejection over Reuscher et al. was deemed to be appropriate to those claims as well because the instantly claimed genus has substantial overlap and common utility with the genus of Reuscher et al. The major difference seen between the two genera is that the instant genus requires that the reaction group be linked to the cyclodextrin via a nitrogen, while the genus of Reuscher et al. teaches O, S, N, or OC=O in that position. This is a small number of identified, predictable variables and one of ordinary skill in the art could have prepared compounds with these variables and reasonably expected to achieve products which would be useful in the textile industry. Thus, the claims are obvious over Reuscher et al.

(10) Response to Argument

Appellant argues that Reuscher only generically teaches the elected species. The elected species is as follows:



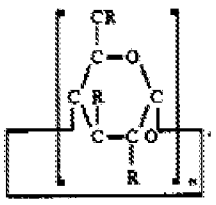
Appellant further argues that there is no overlap of the elected species with the generically defined compounds of Reuscher, and that the closest compound generically described by Reuscher is as follows:

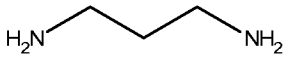


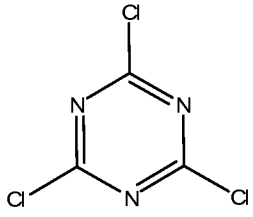
This compound differs from the elected species in that the alkyl group linking the two nitrogens in the spacer group (indicated by the arrow) contains only one carbon, while the same position in the elected species is a two-carbon chain. Appellant's argument that there is no overlap is not persuasive because Reuscher teaches that the spacer can be an alkyl radical of 1-12 carbon atoms, bonded to the heterocycle and the cyclodextrin via amine bonds [see column 2, lines 1-10]. The two-carbon chain in the elected species is an alkyl radical of 2 carbons, which is encompassed within 1-12.

Appellant argues that Reuscher is non-enabling for compounds linked via an amine spacer, although they are generically described. This argument is not persuasive because Reuscher teaches that cyclodextrin derivatives having stable C-O, C-S or C-N bonds can be obtained and reacted with, for example, cyanuric chloride, which installs the triazine moiety [column 4, lines 47-53]. Reuscher teaches reaction of cyclodextrin with compounds containing OH, NH, or SH groups to form covalent bonds, including compounds which carry two or more nucleophilic groups such as diamines including diaminopropane [column 9, lines 21-67]. Cyclodextrin derivatives containing a nucleophilic group such as NH on a spacer, which are in turn nucleophiles, can be obtained [column 9, lines 5-8]. Reaction of cyclodextrin with a diamine such as diaminopropane would result in a compound of claim 16, wherein B is alkyl and A is N. Thus, the skilled artisan would understand that Reuscher teaches the use of diamino

compounds as spacers, which are in turn nucleophiles which can be reacted with cyanuric chloride to give reactive cyclodextrins wherein the reactive group is linked by amino groups. Cyclodextrin as shown by Reuscher, diaminopropane, and cyanuric chloride are illustrated below for clarity.







Appellant argues that Reuscher does not provide any motivation for the skilled artisan to employ amino derivatized polysaccharides and gives no hint of the preparation of such intermediates. The motivation for preparing amino derivatized polysaccharides is supplied by the fact that Reuscher teaches only four possibilities for linking the cyclodextrin to the reactive group. The choices are so few that the skilled artisan could immediately envision using any of the four. Guidance for the preparation of the intermediates is given as set forth above. Resucher teaches the use of a diaminoalkyl spacer, which can then be reacted with the nitrogen-containing heterocycle. The skilled artisan would understand that reaction of a cyclodextrin with the diaminoalkyl spacer, but before subsequent reaction of the remaining NH nucleophile with the heterocycle, would afford an intermediate such as the compounds of claim 16, wherein B is alkyl and A is N. Thus, Reuscher provides sufficient guidance for the skilled artisan to prepare amino cyclodextrin derivatives as described.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Layla Bland/

Examiner, Art Unit 1623

Conferees:

/Shaojia Anna Jiang/

Supervisory Patent Examiner, Art Unit 1623

/Leigh C. Maier/

Primary Examiner, Art Unit 1623